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Research paper

Associations between sociodemographic characteristics and receipt of professional diagnosis in Common Mental Disorder: Results from the Adult Psychiatric Morbidity Survey 2014

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ABSTRACT

Background: Many people with Common Mental Disorders (CMDs), especially men, people from older age groups, and ethnic minority backgrounds, receive no treatment. Self-acknowledgement of mental illness symptoms, and a professional diagnosis are usually required to access treatment. To understand barriers, we therefore tested whether these groups were relatively less likely to self-diagnose a CMD, or to receive a professional diagnosis.
Methods: We analysed data from the 2014 English Adult Psychiatric Morbidity Survey (APMS). We used regression models to examine whether gender, age, and minority ethnic status were associated with professional and self-diagnosis, after controlling for CMD symptoms.
Results: 27.3 % of the population reported a professional and self-diagnosis of CMD, 15.9 % a self-diagnosis only, and the remainder no diagnosis. Odds of professional diagnosis were lower for men compared with women (adjusted odds ratio [AOR] 0.54, 95 % confidence intervals [CI] 0.47–0.62). People from White Other (0.49, 0.36–0.67), Black (0.31, 0.18–0.51), and Asian (0.22, 0.15–0.33) groups were less likely than the White British group to receive a professional diagnosis. The least likely age group to have a professional CMD diagnosis (relative to adults aged 16–34) were people aged over 75 (0.52, 0.39–0.69). Patterns were similar for self-diagnosis.
Limitations: Ethnicity categories were heterogeneous. Data are cross-sectional, and selection and response bias are possible.
Conclusions: For every three people who self-diagnose CMD, two have a professional diagnosis. Men, ethnic minority, and older age groups are less likely to receive a diagnosis or self-diagnose after adjustment for presence of symptoms.

1. Background

Common Mental Disorders (CMDs) include depression, generalised anxiety disorder (GAD), panic disorder, phobias, social anxiety disorder, obsessive-compulsive disorder (OCD) and post-traumatic stress disorder (PTSD). They can be debilitating. They cause emotional distress and interfere with an individual's daily function (Malhi and Mann, 2018). CMDs affect around 1 in 6 people in the UK at any one time (McManus

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et al., 2016). Symptoms of depression and anxiety often co-exist (McManus et al., 2016). CMDs are more common in certain groups of the population, including women, Black ethnic groups, younger people, people who live alone, and individuals not in employment (King et al., 2008; Steel et al., 2014).

A significant number of individuals with CMD do not receive treatment, and having an untreated mental illness is associated with poor quality of life, social isolation, and increased rates of symptom persistence (Weich et al., 2001). Previous studies, including those using Adult Psychiatric Morbidity Survey (APMS) samples, have demonstrated that men, people from ethnic minority groups, and older age groups are less likely to receive treatment after adjusting for level of symptoms (Cooper et al., 2010; Cooper et al., 2013; Ahmad et al., 2021). There is however a dearth of research exploring why this might be; and specifically the extent to which these groups are less likely to: self-diagnose (to conceptualise or report their symptoms as a mental disorder); seek treatment (either due to stigma, being unaware of availability, unconvinced of efficacy, or unable to access or afford care); receive a professional diagnosis when they present to services; or access support and be referred to appropriate treatment when seeking help or on receipt of a diagnosis.

In the current study, we explore whether self- and professional diagnosis of CMD are associated with gender, ethnic group, or age group. The purpose of this analysis is to understand where potential barriers to effective treatment lie. We conceptualised two potential steps in the pathway from experiencing a mental disorder to receiving treatment: consideration and reporting of symptoms as a mental disorder by the individual (self-diagnosis), and recognition and classifying of symptoms as a mental disorder by services (receipt of a professional diagnosis). We hypothesised that among people who self-identify with a disorder, men, people from ethnic minority groups, and older people would be less likely to receive a diagnosis of CMD from a health professional. We also investigated whether these groups were less likely to have consulted a GP, to establish whether any discrepancies in diagnosis between groups were more likely to be due to less contact with healthcare professionals.

2. Method

2.1. Design

We followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) cross-sectional study checklist (Von Elm et al., 2014).

We conducted a secondary analysis of the 2014 Adult Psychiatric Morbidity Survey (APMS) cross-sectional data. The 2014 APMS was the fourth of a series of surveys of the mental health of England's general population. These are nationally representative cross-sectional surveys conducted by the National Centre for Social Research and the University of Leicester at seven-year intervals. The surveys collect data relating to mental disorders, physical health, lifestyle, and sociodemographic characteristics (McManus et al., 2020).

2.2. Population and sample

The APMS sample is described in detail elsewhere (McManus et al., 2020). It comprises around 7500 participants aged 16 and over, living in private households in England. Stratified random probability sampling was used to select participants and to ensure samples were as representative of the general English population as possible (McManus et al., 2016). Initially, addresses were selected from the Postcode Address File, which covers 97 % of eligible households in England. After a visit to confirm that the address was a private household, one resident was chosen at random to participate. Survey weighting was applied to account for selection probability and non-response. Interviews were conducted face to face by trained interviewers in participants' homes, with computer-assisted self-completion for more sensitive topics (McManus et al., 2020).

2.3. Outcome measures

Our primary outcome measures were self- and professional diagnosis of any CMD at any time. Diagnoses included were: depression, postnatal depression, generalised anxiety disorder (GAD), panic disorder, post-traumatic stress disorder, phobias, obsessive compulsive disorder (OCD) (McManus et al., 2016). To record this, the participants were shown a card listing different mental disorders and asked which they thought they had at some point in time. They were then asked whether a doctor, psychiatrist, or other professional had diagnosed any of the conditions they thought they had had. All diagnoses were established through self-report.

We also used as an outcome measure the response to the question: *In the past 12 months, have you spoken to a GP or family doctor on your own behalf, either in person or by telephone about being anxious or depressed or a mental, nervous or emotional problem?*

Receipt of pharmacological therapy was determined by showing participants lists of medications used for CMD and asking them to indicate whether they took any. Use of psychological therapy was similarly established by asking participants "Are you currently having any counselling or therapy listed on this card for a mental, nervous or emotional problem?"

2.4. Exposure measures

Participants self-reported their gender as either male or female; other categories were not included in the APMS in 2014. Participants selected their ethnicity from one of 18 groups shown, based on the UK Census. Only collapsed White British, White Other (including Irish, Gypsy or Irish Traveller), Black (including Black African, Black Caribbean and Black British), Asian (including Asian British, Bangladeshi, Indian and Pakistani), and a group comprising Mixed, Multiple, and Other Ethnic Group categories were available in the archived dataset and were used here. We used the following age categories based on participants' reported ages: 16–34; 35–54; 55–74; and 75+.

2.5. Covariates

The Clinical Interview Schedule – Revised (CIS-R) is administered as part of the APMS. We used CIS-R score to control for current level of CMD symptoms. The CIS-R is a structured diagnostic instrument for the assessment and measurement of psychiatric and non-psychotic morbidity, for which validity is demonstrated (Lewis et al., 1992). Fourteen sections measure symptoms present at a level that causes distress and interferes with daily activities. A cut-off of 12 is considered to indicate clinically significant CMD symptoms (Tylee and Haddad, 2007).

We chose two covariates *a priori*, that could be associated with differences in diagnostic status between groups. These were: highest educational qualification as reported by participants (none/GCSEs or equivalent/A-level/degree/international qualification/teaching qualification); and employment status based on National Statistics Socioeconomic Classification (NS-SEC) (managerial and professional occupations/intermediate occupations/small employers and own account workers/lower supervisory roles/semi-routine or routine occupations/never worked or not worked in last year) (Office for National Statistics, 2010). We refer to this as occupational social class hereafter.

In further models, we adjusted for having consulted a GP for a mental, nervous, or emotional problem in the past 12 months as a covariate, to see whether consultation mediated any association between demographic variables and diagnosis.

2.6. Missing data

The analytic sample comprised only participants with complete data on all variables included in the analysis (complete case analysis).

2.7. Statistical analysis

All analyses were conducted using Stata version 16 (StataCorp, 2019). We applied the original survey weightings provided with the APMS 2014 dataset to all analyses. We report the proportion of participants who reported self- and professional diagnosis of CMD. In descriptive analyses, we report unweighted numbers but weighted proportions.

We used logistic regression models to test whether there was an association between each exposure variable (gender, ethnic group, and age group) and self- and professional diagnosis of CMD individually, controlling for CIS-R score as the only covariate. We then ran the models

including all the exposure variables and two covariates (educational level and occupational social class) combined in multivariable logistic regression models (Lumley and Scott, 2017). In a third model, we additionally adjusted for having consulted a GP for a mental, nervous, or emotional problem within the past year, to see whether this was the mediating variable between demographic exposure and odds of diagnosis.

We also tested whether having consulted a GP as an outcome was associated with age, ethnicity, or self-diagnosis, again following adjustment only for CIS-R score and following adjustment for other covariates.

2.8. Subgroup analyses

We confined our sample to participants who had self-diagnosed CMD and used logistic regression to test the odds of not receiving a professional diagnosis according to each exposure, adjusting for covariates as

Table 1
Description of analytic sample according to Common Mental Disorder (CMD) self-diagnosis status.

Variables N = 7420		Total N (%)	Never diagnosed with CMD	Self-diagnosed CMD only	Received self- and professional CMD diagnosis
Total		7420	3984 (56.8)	1176 (15.9)	2260 (27.3)
Gender	Male	2997 (48.8)	1880 (55.9)	462 (46.0)	655 (35.7)
Age (years)	16–34	1577 (31.1)	857 (32.7)	275 (34.0)	445 (26.1)
	35–54	2442 (33.6)	1199 (31.5)	369 (31.3)	874 (39.3)
	55–74	2360 (25.5)	1217 (23.7)	395 (26.6)	748 (28.4)
	75+	1041 (9.9)	711 (12.1)	137 (8.2)	193 (6.3)
Ethnicity	White British	6306 (80.7)	3290 (77.4)	968 (77.8)	2048 (89.1)
	White Other	416 (6.6)	253 (7.6)	71 (6.8)	92 (4.3)
	Black	196 (3.1)	119 (3.5)	36 (3.6)	41 (2.0)
	Asian	352 (7.0)	236 (8.5)	68 (8.2)	48 (3.0)
	Multiple/mixed/other	150 (2.6)	86 (2.9)	33 (3.6)	31 (1.5)
Educational level	No qualification	1832 (20.3)	1023 (20.3)	225 (15.8)	584 (23.1)
	GSCE	1735 (24.7)	860 (23.2)	288 (26.3)	587 (26.9)
	A-level	1187 (18.5)	606 (18.8)	202 (18.4)	379 (18.1)
	Degree	1786 (25.4)	999 (26.2)	316 (28.5)	473 (22.0)
	International qualification	270 (3.2)	157 (3.3)	49 (3.7)	64 (2.5)
	Teaching qualification	608 (7.9)	339 (8.3)	96 (7.3)	173 (7.4)
Occupational social class	Managerial	1787 (26.1)	1017 (27.6)	308 (27.9)	462 (22.1)
	Intermediate occupations	675 (9.2)	302 (7.8)	120 (10.4)	253 (11.5)
	Small employers and own account workers	421 (6.3)	233 (6.5)	67 (5.7)	121 (6.1)
	Lower supervisory	202 (3.3)	124 (4.0)	25 (2.5)	53 (2.4)
	Semi-routine or routine occupations	1128 (18.3)	607 (19.0)	178 (18.3)	343 (16.9)
	Never worked or not worked in past year	2894 (30.6)	1533 (28.6)	420 (27.8)	941 (36.4)
	Unclassified for another reason	313 (6.2)	168 (6.6)	58 (7.5)	87 (4.6)
Current CIS-R score	12+	1211 (15.7)	187 (4.9)	183 (17.1)	841 (37.4)
Receiving pharmacological therapy	Yes	1016 (11.6)	180 (3.7)	52 (3.3)	784 (32.9)
	No	6399 (88.3)	3803 (96.3)	1122 (96.6)	1474 (67.0)
	Missing	5 (<0.1)	1 (<0.01)	2 (<0.01)	2 (0.01)
Receiving psychological therapy	Yes	201 (2.5)	19 (0.5)	11 (1.1)	171 (7.4)
	No	7218 (97.5)	3965 (99.6)	1164 (98.8)	2089 (92.6)
	Missing	1 (<0.1)	–	1 (<0.01)	–
Seen GP	Yes	1009 (12.5)	103 (2.5)	80 (6.7)	826 (36.5)

CIS-R = Clinical Interview Schedule-revised.
Seen GP = Seen GP for mental, emotional or behavioural condition in past 12 months.

in other models, and using the *subpop* command in STATA to apply survey weighting (UCLA Statistical Consulting Group).

2.9. Sensitivity analyses

We tested the extent to which self- and professional diagnosis were associated with CIS-R score or treatment receipt (pharmacological or psychological therapy respectively) in supplementary analyses. Our aim was to confirm that diagnosis is a mediating variable associated with treatment receipt, as assumed in this paper.

3. Results

Table 1 shows a description of the sample according to diagnosis status. 7420 (98 %) of the total APMS sample had complete data for primary analyses and comprised the analytic sample. 3984 (56.8 %) people from the analytic sample reported not ever having had a self- or professional diagnosis of CMD; 2260 (27.3 %) reported a professional and self-diagnosis, and the remaining 1176 (15.9 %) reported self-diagnosis with no professional diagnosis. People with a professional diagnosis were more likely to be female, White British, and not working compared to people with no professional diagnosis.

Linear regression models showed that relative to no diagnosis, self-diagnosis only was associated with a 3.10-point mean increase in CIS-R score (95 % CI 2.67–3.53, p < 0.001), whilst professional diagnosis was associated with a 7.84 point mean increase (95 % CI 7.31–8.36, p < 0.001) (Supplementary Table 1).

Table 2 shows logistic regression results for the relationship between individual sociodemographic characteristics and likelihood of having a diagnosis after controlling for CIS-R score only and additionally controlling for other covariates. Men were less likely to have received a professional diagnosis than women in models adjusted only for CIS-R score (adjusted odds ratio [AOR] 0.53, 95 % confidence intervals [CI] 0.46–0.61, p < 0.001), and the multivariable model (model 2) (AOR 0.54, 95 % CI 0.47–0.62, p < 0.001).

In the models controlling for multiple covariates, people from White Other (AOR 0.49, 95 % CI 0.36–0.67, p < 0.001), Black (AOR 0.31 95 % CI 0.18–0.51, p < 0.001), Asian (AOR 0.22 95 % CI 0.15–0.33, p < 0.001) and Mixed/Multiple/Other ethnic minority groups (AOR 0.33 95 % CI 0.20–0.56, p < 0.001) had lower odds of having a professional diagnosis than people from the White British group.

Across models, people aged 35–54 and people aged 54–74 had higher odds of having professional diagnosis than people aged 16–34 years. The least likely group to have a professional diagnosis in the multivariable

Table 2

Association between odds of self- and professional diagnosis of Common Mental Disorder, and gender, age and ethnicity.

Exposure	N = 7420	Model 1 AOR [95 % CI]	p	Model 2 AOR [95 % CI]	p	Model 3 AOR (95 % CI)	p
Professional diagnosis							
Gender	Female	Reference	–	Reference	–	Reference	–
	Male	0.53 [0.46–0.61]	<0.001	0.54 [0.47–0.62]	<0.001	0.55 [0.48–0.64]	<0.001
Age	16–34	Reference	–	Reference	–	Reference	–
	35–54	1.74 [1.46–2.08]	<0.001	1.61 [1.34–1.95]	<0.001	1.69 [1.38–2.08]	<0.001
	55–74	1.86 [1.57–2.21]	<0.001	1.26 [1.02–1.56]	0.031	1.41 [1.14–1.75]	0.002
	75+	0.97 [0.77–1.23]	0.818	0.52 [0.39–0.69]	<0.001	0.63 [0.47–0.84]	0.002
Ethnicity	White British	Reference	–	Reference	–	Reference	–
	White Other	0.49 [0.36–0.66]	<0.001	0.49 [0.36–0.67]	<0.001	0.51 [0.37–0.71]	<0.001
	Black	0.30 [0.18–0.50]	<0.001	0.31 [0.18–0.51]	<0.001	0.37 [0.23–0.61]	<0.001
	Asian	0.22 [0.15–0.31]	<0.001	0.22 [0.15–0.33]	<0.001	0.21 [0.15–0.31]	<0.001
	Multiple/mixed/other	0.34 [0.20–0.58]	<0.001	0.33 [0.20–0.56]	<0.001	0.27 [0.15–0.50]	<0.001
Self-diagnosis							
Gender	Female	Reference	–	Reference	–	Reference	–
	Male	0.58 [0.52–0.66]	<0.001	0.60 [0.53–0.68]	<0.001	0.62 [0.55–0.70]	<0.001
Age	16–34	Reference	–	Reference	–	Reference	–
	35–54	1.37 [1.17–1.61]	<0.001	1.32 [1.11–1.57]	0.002	1.33 [1.11–1.59]	0.002
	55–74	1.58 [1.35–1.85]	<0.001	1.28 [1.06–1.55]	0.009	1.36 [1.12–1.64]	0.002
	75+	0.82 [0.67–0.99]	0.043	0.59 [0.47–0.76]	<0.001	0.66 [0.51–0.85]	0.001
Ethnicity	White British	Reference	–	Reference	–	Reference	–
	White Other	0.62 [0.48–0.81]	<0.001	0.61 [0.47–0.80]	<0.001	0.64 [0.49–0.84]	0.001
	Black	0.49 [0.34–0.71]	<0.001	0.48 [0.32–0.72]	<0.001	0.53 [0.36–0.78]	0.001
	Asian	0.45 [0.33–0.61]	<0.001	0.46 [0.33–0.63]	<0.001	0.48 [0.35–0.66]	<0.001
	Multiple/mixed/other	0.63 [0.40–0.99]	0.043	0.61 [0.39–0.98]	0.039	0.59 [0.37–0.97]	0.036
Consulted a GP or family doctor for mental health in past 12 months							
Gender	Female	Reference	–	Reference	–		
	Male	0.65 [0.52–0.80]	<0.001	0.65 [0.53–0.80]	<0.001		
Age	16–34	Reference	–	Reference	–		
	35–54	1.15 [0.91–1.45]	0.248	1.09 [0.85–1.40]	0.495		
	55–74	0.93 [0.72–1.19]	0.541	0.71 [0.52–1.00]	0.030		
	75+	0.55 [0.38–0.79]	0.001	0.35 [0.22–0.55]	<0.001		
Ethnicity	White British	Reference	–	Reference	–		
	White Other	0.68 [0.43–1.08]	0.105	0.65 [0.41–1.04]	0.073		
	Black	0.28 [0.13–0.59]	0.001	0.26 [0.13–0.55]	<0.001		
	Asian	0.58 [0.37–0.92]	0.019	0.55 [0.35–0.86]	0.009		
	Multiple/mixed/other	1.17 [0.67–2.03]	0.578	1.09 [0.61–1.92]	0.778		
Self-diagnosis	Present	6.46 [5.01–8.33]	<0.001	6.00 [4.63–7.68]	<0.001		

AOR = Adjusted odds ratio - Adjusted for CIS-R score, educational level, occupational social class, gender, ethnicity, and age group.

Model 1 = Adjusted for Clinical Interview Schedule-revised (CIS-R) score only.

Model 2 = Adjusted for CIS-R score, educational level, occupational social class, gender, ethnicity, and age group.

Model 3 = Adjusted for CIS-R score, educational level, occupational social class, gender, ethnicity, and age group, and having seen a GP or family doctor for a mental, nervous, or emotional problem in the past year.

model was people aged over 75 years (AOR 0.52, 95 % CI 0.39–0.69, p < 0.001). Patterns were very similar for self-diagnosis in all analyses.

Further adjusting for whether people had consulted a GP regarding their mental health in the past year made very little difference to these findings (model 3). Men, Black and Asian ethnic groups, and people aged 75+ were less likely to have seen a GP in the past year for mental health. The 16–24 age group was no less likely to have seen a GP, despite having lower rates of diagnosis. Self-diagnosis was strongly associated with having seen a GP in the past year for mental health.

Table 3 shows the odds of not receiving a professional diagnosis having self-diagnosed CMD at some point. 3436 people were included in these analyses. We found that men had over 1.5 times odds of not receiving a diagnosis in the multivariable model (AOR 1.58, 95 % CI 1.31–1.90, p < 0.001) compared to women, which persisted after adjusting for GP contact. The oldest age group had higher odds of not receiving a professional diagnosis (AOR 1.49, 95 % CI 1.04–2.13, p = 0.031) compared to the youngest group, but this was not seen following the additional adjustment for having consulted. White Other (AOR 1.82, 95 % CI 1.26–2.64, p = 0.002), Black (AOR 2.55, 95 % CI 1.37–4.72, p = 0.003) and Asian (AOR 4.22, 95 % CI 2.60–6.84, p < 0.001) ethnic minority groups had far higher odds of not receiving professional diagnoses, which persisted following further adjustment, suggesting that this was not explained by lower rates of consulting a GP.

As expected, professional diagnosis was strongly associated with receipt of both psychological therapy and pharmacological therapy (Supplementary Table 2). Surprisingly, compared to no diagnosis, having a self-diagnosis only was associated with lower odds of medication receipt, following adjustment.

4. Discussion

4.1. Summary of main findings

Our findings indicate that previously reported inequalities in likelihood of treatment receipt for men, older people, and people from ethnic minority groups also apply to the likelihood of self-diagnosing and receiving a professional diagnosis for CMD (Cooper et al., 2013). The oldest age group was less likely to receive a professional diagnosis compared with other age groups, but there was also suggestion that the youngest age group were less likely to. The inequalities in self- and professional diagnosis in men and ethnic minority groups remained after accounting for the likelihood of consulting a GP about mental health in the past 12 months; GP consultation for mental health was also lower in these groups. As expected, supplementary analyses showed that professional diagnosis were strongly associated with treatment receipt.

4.2. Interpretation of findings

4.2.1. Gender

Traditional gender roles and societal expectations around masculinity may explain why men are less likely to seek diagnosis for CMDs, with notions that they are expected to be strong, dominant, and in control remaining prevalent in society, and potentially making it more difficult for men to acknowledge, discuss, and seek help for mental health issues (Afifi, 2007). Research confirms that men open up about their emotions less frequently, and as a consequence they tend to be less likely to recognise or report symptoms of CMDs and less likely to seek diagnosis (Smith et al., 2018). This is consistent with our finding that men were less likely to have seen a GP for mental health in the past year. Moreover, the association between male gender and lower odds of diagnosis persisted after adjusting for having seen a GP or family doctor about a mental health problem, suggesting that reduced help-seeking among men cannot fully account for these findings. It is possible that healthcare professionals are also influenced by conscious or unconscious beliefs about gender expectations and mental health, where stereotypes about women being more prone to emotional problems than men could be driving increased diagnosis or potentially overdiagnosis in women (Ussher, 2013; World Health Organisation Department of Mental Health and Substance Dependence, 2013). A further explanation could be that men are more likely to express mental distress through 'externalising' behaviours such as drug and alcohol abuse and impulsive actions, and therefore more likely to be diagnosed with externalising disorders rather than CMDs such as depression (Boyd et al., 2015; Kuehner, 2017).

4.2.2. Ethnicity

Previous research found that people from UK ethnic minority groups were less likely to consult a GP for CMD, and we also found this (Cooper et al., 2010). However, our finding that these discrepancies in diagnosis persisted after adjusting for having consulted a GP suggests that healthcare professionals are also less likely to diagnose CMD in individuals from ethnic minority backgrounds.

Individuals with little or no experience of mental conditions identified stigma, social repercussions, and shame as the greatest barriers to seeking mental health care in one study (Alonso et al., 2009). Previous negative experiences related to racism, or fear of discrimination, unfair, or coercive treatment in mental health services, and anticipation of surveillance from social services as a result of diagnosis, together with cultural norms of self-reliance and resilience in the face of distress could be driving the findings noted here (Gilburt et al., 2008; Memon et al., 2016; Polling et al., 2021). Unwanted hospital admissions, medication, or experience of mistreatment by mental health services has been shown to disproportionately affect ethnic minority groups (Alonso et al., 2009;

Table 3

Odds of not receiving a professional diagnosis of Common Mental Disorder (CMD) among people with self-diagnosis according to sociodemographic exposure variables.

Exposure	N = 3436	Model 1 OR [95 % CI]	p-Value	Model 2 AOR [95 % CI]	p-Value	Model 3 AOR [95 % CI]	p-Value
Gender	Female	Reference	–	Reference	–	Reference	–
	Male	1.54 [1.29–1.83]	<0.001	1.58 [1.31–1.90]	<0.001	1.55 [1.28–1.88]	<0.001
Age	16–34	Reference	–	Reference	–	Reference	
	35–54	0.61 [0.49–0.76]	<0.001	0.60 [0.48–0.77]	<0.001	0.57 [0.44–0.73]	<0.001
	55–74	0.72 [0.58–0.89]	0.003	0.86 [0.66–1.12]	0.268	0.79 [0.60–1.03]	0.082
	75+	1.00 [0.75–1.35]	0.977	1.49 [1.04–2.13]	0.031	1.29 [0.89–1.87]	0.174
Ethnicity	White British	Reference	–	Reference	–	Reference	–
	White Other	1.81 [1.30–2.52]	0.001	1.82 [1.26–2.64]	0.002	1.71 [1.16–2.51]	0.007
	Black	2.02 [1.17–3.51]	0.012	2.55 [1.37–4.72]	0.003	2.10 [1.13–3.89]	0.019
	Asian	3.13 [2.01–4.88]	<0.001	4.22 [2.60–6.84]	<0.001	4.30 [2.72–6.81]	<0.001
	Other	2.71 [1.56–4.70]	<0.001	3.14 [1.74–5.67]	<0.001	3.34 [1.79–6.24]	<0.001

OR = odds ratio, AOR = adjusted odds ratio, 95 % CI = 95 % confidence interval.
Model 2 = Adjusted for CIS-R score, educational level, occupational social class, gender, ethnicity, and age group.
Model 3 = Adjusted for CIS-R score, educational level, occupational social class, gender, ethnicity, and age group, and having seen a family doctor for a mental, nervous or emotional problem in the past year.

Chakraborty et al., 2011; Barnett et al., 2019). For example, the legacy of historical overdiagnosis of severe mental illness in Black African and Caribbean men, and their overrepresentation in and experience of co-ercive routes to inpatient psychiatric services may be driving concerns related to diagnosis in these groups (Keating and Robertson, 2004). Moreover, the effects of systemic racism, including poverty and socio-economic disadvantage, likely compound these effects (Williams and Cooper, 2019). Beliefs in some cultures that mental distress should not be medicalised, or experience of services as not culturally competent, might also deter help-seeking (Memon et al., 2016).

Reasons behind lower rates of diagnosis having consulted a GP in ethnic minority groups are again unclear. There are practical barriers to accessing services for some groups, for example language barriers (Memon et al., 2016). Further, previous research shows that language used to express depressive symptoms varies across cultures, and might not be recognised equally by professionals (Bhui et al., 2004; Brijnath and Antoniades, 2018). Rapport with healthcare practitioners is important in creating safe spaces to fully disclose symptoms, and pre-vious experiences of and anticipated racism in healthcare could jeop-ardise this (Memon et al., 2016).

We note that the odds of self-diagnosis were also lower in ethnic minority groups, which could be a result of professional diagnosis pre-ceding self-diagnosis in our sample. It might also result from different cultural conceptions of the meaning of mental distress, with the Western 'bio-medical model' being just one framework that people use to make sense of suffering (Burr and Chapman, 1998; Tyson and Flaskerud, 2009).

4.2.3. Age

Lower treatment receipt among older people has previously been noted, and concern raised that CMD in older people might be seen as 'simply a consequence of ageing', leading to missed opportunity to prevent deterioration in health (Cooper et al., 2010). Lower rates of self-diagnosis could be seen to suggest lower awareness of mental illness in older generations, but again this difference persisted following adjust-ment for having consulted a GP in our study, showing that the difference cannot be explained purely in terms of lower help-seeking. We cannot know from these findings whether the diagnoses were recent or not, so this might also reflect historical lower willingness to diagnose CMDs among professionals. Our finding that the 16–24-year-old age group were also less likely to receive a diagnosis despite seeing a GP at rates comparable to other age groups also warrants attention. A thematic analysis noted that despite having the highest rates of CMD, this age group tended to be reluctant to seek help (Gulliver et al., 2010). It found that barriers to seeking help among young people included embarrass-ment, perceived stigma, and low confidence in ability of healthcare professionals to resolve their problems (Gulliver et al., 2010). The rea-sons why professionals might be less likely to make a diagnosis when consulted for this younger age group are less clear, but we speculate that this could relate to concern about labels 'sticking' into adulthood and being difficult to change or adjust after symptoms have resolved, leading to continued pathologisation (Ford et al., 2016).

4.2.4. General

We have conceptualised diagnosis as a route to obtaining support for mental distress in this paper. It should however be noted that some people might want to obtain support without a diagnosis, for example to avoid anticipated stigma and discrimination associated with diagnosis (Hamilton et al., 2014; Hamilton et al., 2016), or due to concerns sur-rounding pathologisation of distress and social problems (Ratnayake, 2021). This might particularly apply to older age and ethnic minority groups, who are already more likely to be subjected to discrimination. Non-receipt of diagnosis could therefore be viewed as positive by members of these groups, especially if care can be provided without diagnosis.

4.3. Strengths

The APMS is a large, nationally representative sample from the general population, which has allowed us to evaluate gaps in diagnosis of CMDs. To our knowledge, this is the first study to evaluate diagnosis rather than treatment, allowing us to identify a novel route of possible exclusion from mental health services (Beale, 2021). Use of a validated tool to determine symptomatology is a further strength.

4.4. Limitations

A major limitation of our study was the inability to separate ethnic minority groups due to small numbers. The broad categories that we have assessed include heterogeneous groups, potentially with entirely different experiences of UK healthcare. The same may apply to the use of binary gender categories. Analysis of intersectionality and the over-lapping impact of sociodemographic characteristics investigated here on diagnosis were limited. As the data used are cross-sectional, we cannot conclude whether self-diagnosis is a pre-requisite to seeking a profes-sional diagnosis, or the converse. Lifetime self-reported diagnostic status was considered here, whereas GP consultation was only in relation to the past 12 months at the time of survey. Further, response and selection bias are always possible in surveys of this type. The response rate of the APMS was 57 %, which is commensurate with similar household surveys (McManus et al., 2020). The sampling frame used only covers private homes and does not include data from institutions, which could give different results, although fewer than 2 % of the population were excluded on this basis (McManus et al., 2020). Use of data from short surveys rather than detailed interviews could have led to overestimates of CMD symptomatology. There was no linkage to healthcare records, so some diagnoses may have been missed if participants were unaware of them. There could also have been a degree of recall bias, and survivor bias in the oldest age group. It is also noteworthy that stigmatising and undesirable behaviours and feelings might have been under-reported, although the strength of the findings suggests that this did not have a marked effect on results. We did not impute missing data; our use of a sample containing only complete data may have impacted findings, if data was not missing at random. We did not distinguish between CMDs; it would have been interesting, if sample size had allowed, to do so. We discuss non-patient factors that are likely to be implicated in our find-ings, but we could not directly measure them.

5. Conclusions

Our results support existing theories that seek to explain the dis-parities in receiving treatments for CMDs, and further suggest that the differences occur both in terms of individual help-seeking, and pro-fessionals making diagnoses once consulted.

The identification of these factors and their influence on the likeli-hood of receiving diagnosis is important because it can assist in the development of mental health policies and services that can accommo-date individuals regardless of sociodemographic characteristics, which have been historically associated with reduced access to and receipt of mental health services. The reasons why men are less likely to receive a CMD diagnosis despite having consulted their GP warrant further exploration, and have potential implications for established under-standing that CMDs are twice as common in women (Kuehner, 2017). Our results highlight the importance of providing culturally sensitive practices that support good recovery. This requires a variety of access pathways for diagnosis, such as culturally informed and adapted ser-vices meeting the needs of ethnic minority and marginalised pop-ulations, and ensuring access materials are translated into the main languages spoken by ethnic minority groups (Weich et al., 2004). Our findings also serve as a reminder that CMDs affect all age groups, and symptoms should not be dismissed based on age. As we can only spec-ulate on the nuanced range of potential reasons for these inequalities,

future research should aim to investigate barriers to diagnosis in more depth, including with first person accounts of challenges faced by ethnic minority groups.

CRediT authorship contribution statement

No funding was received directly for this paper.

CC conceptualised the study. NB analysed the data and wrote the first draft. NS also contributed to the analysis. GA edited and contributed appropriate references. All authors edited the manuscript.

Conflict of interest

There are no conflicts of interest to declare.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi. org/10.1016/j.jad.2022.09.085.

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